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# Preparation, spectral characterization and thermal study of some biological active mercury(II) complexes

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Mercury ion is of importance in biological and chemical point of view. This metal ion also forms useful amalgams with many metals, which has various applications in a variety of industrial and medicinal research fields. Because of the diverse applications and the toxic character of mercury compounds, there is a need to develop the cheistry and especilly coordination chemistry of this metal ion.. The toxicity of mercury depends on its occurring forms; organomercurials such as methylmercury are more toxic than elemental mercury and other inorganic mercury compounds. Mercury containing Schiff base ligands are known to form stable complexes with various biological and industrial chemistry. Recently some reports on mercury Schiff base complexes show that these stable compounds can act as antimicrobial and antioxidant matterial[1-5].

In this research, a new bidentate ligand entitled as *N,N'*-Bis-(3-(2methoxyphenyl-2-allylidene)-benzene-1,2-diamine and its Hg(II) complexes were synthesized and identified by analytical and spectral data(FT-IR, UV-Visible and $^{1}H$ and $^{13}C$-NMR). Moreover, thermal analysis of ligand and its complexes were studied in the range of room temperature to 1000 °C with a heating rate of 20 °C $min^{-1}$ and then some thermokinetic data were estimated for all thermal decomposition steps. Moreover antibacterial and antifungal properties of the ligand and its mercury complexes were evaluated *in vitro* by well diffusion method.

***Keywords:*** Mercury(II) complex, Schiff base, Thermal, Antimicrobial.

**References**

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